

A NEW SPECIES OF *ADAMYSTIS* (ACARI: ADAMYSTIDAE) FROM
THE SOUTHERN HIGH PLAINS OF TEXAS

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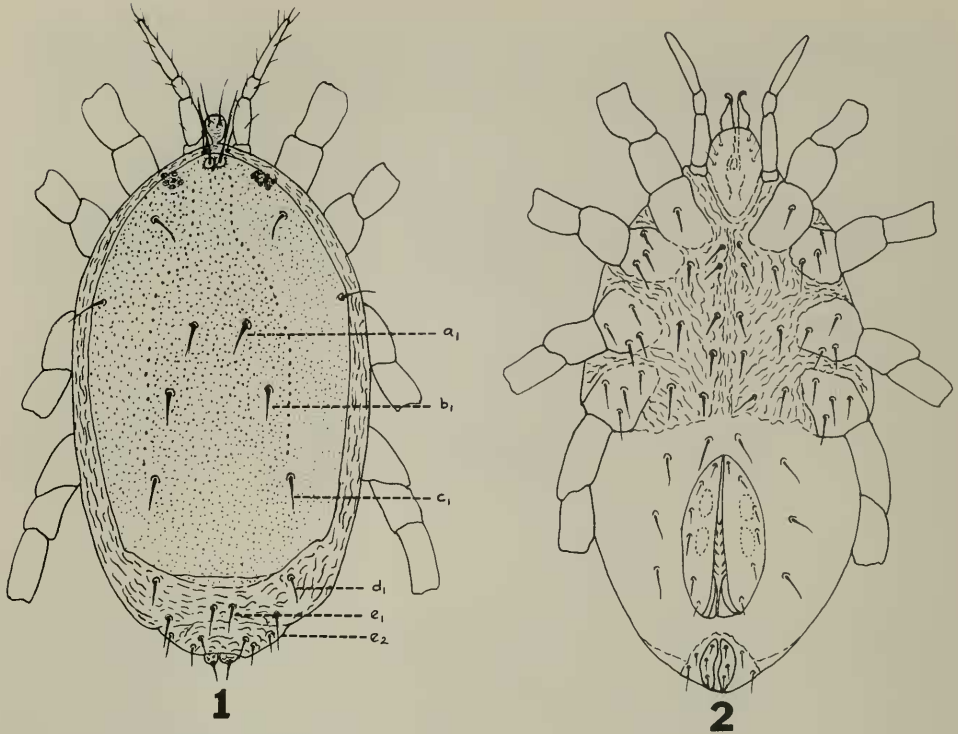
Abstract.—*Adamystis beckyanneae*, n. sp. is described from the Southern High Plains of Texas. This extends the distribution of the genus to include Texas.

The genus *Adamystis* Cunliffe was erected for *A. donnae* Cunliffe collected from lodgepole pine cones in California. It was placed in the family Anystidae with the establishment of a new subfamily Adamystinae for *A. donnae*. A second species, *A. sarae* Hunter and Crossley (1968), was discovered from cornfield litter in South Carolina. Following Cunliffe (1957), *A. sarae* was placed in the family Anystidae subfamily Adamystinae. A third undescribed form is mentioned by both Cunliffe (1957) and Hunter and Crossley (1968) from pine-needle duff in North Carolina. This undescribed specimen is similar to *A. sarae* in that it is characterized by Cunliffe (1957) as "possessing lens-like organs on the lateral and posterior margins of the body—6 pairs surround the anal opening." Hunter and Crossley (1968), on the basis of the absence of a seta on the basal segment of the palpus recorded by Cunliffe (1957), were of the opinion that the undescribed specimen represents a third species of *Adamystis* from the United States.

During an investigation on the microarthropod fauna of the Southern High Plains of western Texas, a new species belonging to the genus *Adamystis* was collected. Because of some major morphological characters not found on *A. donnae* that are important in distinguishing between *A. sarae* and the new species collected from Texas, an expanded description of *Adamystis* is included.

Adamystis Cunliff 1957

Palpus without thumb-claw complex; trichobothria on an anteromedian naso; chelicerae with single dorsal seta, moveable chela distal, hooklike; peritreme external, lying under anterior fold of body. Dorsum of body with 1 or 2 pairs of eyes. Lateral eyes present or absent, if present occasionally with a row of anterolateral lenslike structures which extend posteroventrally. Coxae I–IV contiguous or with coxae I–II contiguous but separated from coxae III–IV; tarsi of legs with claws and empodia; sensory setae of tarsus I present and erect. With 2 pairs of genital acetabula.



Figs. 1, 2. *Adamystis beckyanneae*. 1, Dorsal view. 2, Ventral view.

Adamystis beckyanneae McDaniel and Bolen, NEW SPECIES

Fig. 1-2

Idiosoma 450 μ long 225 μ wide between 2nd and 3rd pair of legs. Anterior trichobothria inserted on well-developed naso; stigmata and peritremes located at base of chelicerae; chelicera base broad narrowing to apex, with well-developed hooklike chela with smaller fixed chela; single cheliceral seta located at junction of broad cheliceral base and narrowing apex, another small seta at base of fixed chela. Palpus 4-segmented, terminal segment with 4 solenidia. Naso projecting from narrow base striated with pair of trichobothria; single dorsal shield; lateral eyes absent, dorsal eyes present, these grouped in a cluster of 6 to 8 at anterior portion of dorsal shield and striated integument. Dorsal shield with 5 pairs of setae, a pair of trichobothria located on anterior extension of dorsal shield (Fig. 1). A pair of setae located between dorsal shield trichobothria and naso, these situated on striated integument; 6 setae on striated integument posterior to dorsal shield; a single pair of anal setae located on protruding anal lobes.

Venter with apodome I and II contiguous; apodomes II-III and III-IV separated from one another. Sternal center striae longitudinal. Area of sternum containing coxae with horizontal striae divided in center by longitudinal striae giving appearance of 2 large plates enclosing coxae, this area contains 8 pairs of setae. Intercostal setation 1-3-4-4. Genital region surrounded by 4 pairs of setae. Genital opening with 6 pairs of very small internal setae; 6 pairs of genital setae; 2 pairs of genital acetabula. Anal plate with 3 pairs of anal setae, surrounded by 2 pairs of anal

setae. Tarsus I bears a single erect solenidium; femora I–III each bear a whiplike setae.

Holotype. —♀, Texas, Lamb County, 9.6 km south of Olton, November 2, 1980, B. McDaniel and Eric G. Bolen. Slide mounted holotype will be deposited in the National Museum of Natural History, Washington, D.C. (USNM).

Remarks. —*Adamystis beckanneae* may be distinguished from other species of *Adamystis* by the following key.

KEY TO SPECIES OF ADAMYSTIS CUNLIFF

1. Lateral "eyes" present *sarae* Hunter and Crossley
- Lateral "eyes" absent 2
- Setae e_1 located on dorsal shield *donnae* Cunliff
- Setae e_1 not located on dorsal shield 3
3. Dorsal shield narrowing at posterior region not encompassing setae c_1, d_1 *fonsi* Coineua
- Dorsal shield broad at posterior region, encompassing setae c_1, d_1 4
4. Dorsal shield reticulated *doumengei* Coineau
- Dorsal shield not reticulated *beckyanneae*, new species

Habitat. —Unlike the habitat recorded for other species of *Adamystis* (e.g., pine cones and corn or pine litter), *A. beckyanneae* was collected within 20 cm of the surface of deep, sandy soil. The sands are a major incursion into a region otherwise dominated by loams; they form a ribbon of sandhills running more or less parallel to an intermittent streambed bisecting Lamb County on an east-west axis. The soil is of the Tivoli series, a non-calcareous, fine sand subject to wind erosion and duning. Climax vegetation includes Indiangrass (*Sorghastrum nutans*), big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), and side-oats grama (*Bouteloua crutispendula*), but grazing has replaced much of this vegetation with sand sagebrush (*Artemisia filifolia*), skunkbrush (*Rhus trilobata*), and yucca (*Yucca* sp.).

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